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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,934	03/24/1999	MARK WILLIAM JANOSKA	1400.4100209	1410
25697	7590	04/19/2005	EXAMINER	
ROSS D. SNYDER & ASSOCIATES, INC.			HOANG, THAI D	
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2667

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/275,934

Applicant(s)

JANOSKA ET AL.

Examiner

Thai D Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-28 is/are allowed.
- 6) ☒ Claim(s) 1-5,7,8 and 11-21 is/are rejected.
- 7) ☒ Claim(s) 6,9,10,22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claim 18 is rejected under 35 U.S.C. 102(e) as being unpatentable over Sakamoto, U.S. patent No. 6,075,767.

Regarding claim 18, Sakamoto discloses a system having a redundant architecture for switchover to a line interface. Sakamoto discloses that the system comprises a switch core (2), wherein the switch core has a plurality of inputs and a plurality of outputs, wherein the switch core passes data received on the plurality of inputs to the plurality of outputs based on routing tags (figs. 1-5, col. 1, lines 13-17; col. 2, lines 19-22; col. 9, lines 8-11; col.13, lines 4-6); and a plurality of line card managers (selector card 3) operably coupled to the switch core (2) and adapted to couple to a plurality of line card pairs (1-1 and 1-2), wherein each line card manager includes an

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arbiter (MPU 28) that couples to a first line card and a second line card of a line card pair, wherein each line card manager couples to a different line card pair, wherein each arbiter is operably coupled to a corresponding input of the plurality of inputs of the switch core, wherein the arbiter provides ingress data from one of the first and second line cards to the corresponding input to the switch core based on selection information (figures 1, 4-5 and 17; col. 7, line 40 - col. 8, line 67.)

Furthermore, Sakamoto discloses each selector card 3 couples to a respective output port of the switch core 2, wherein the data received from the output port of the switch is forwarded to the first line card 1.1 and/or second line card 1.2 based on a routing information of the received data (figures 1, 4-5 and 17). Sakamoto discloses that the first and second line cards (1-1 and 1-2) comprise a routing function (col. 2, lines 20-22; col. 9, lines 8-11; col. 12, lines 50-55; col.13, lines 4-6), which provides egress data from the corresponding output to the first and second line cards (1.1 and 1.2) based on routing information included in the egress data (fig. 3, col. 2, lines 23-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7-8, 11-17 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto, U.S. patent No. 6,075,767.

Regarding claims 1 and 15, Sakamoto discloses a system having a redundant architecture for switchover to a line interface. Sakamoto discloses that the system comprises a switch core (2), wherein the switch core has a plurality of inputs and a plurality of outputs, wherein the switch core passes data received on the plurality of inputs to the plurality of outputs based on routing tags (figs. 1-5, col. 1, lines 13-17; col. 2, lines 19-22; col. 9, lines 8-11; col.13, lines 4-6); and a plurality of line card managers (selector card 3) operably coupled to the switch core (2) and adapted to couple to a plurality of line card pairs (1-1 and 1-2), wherein each line card manager includes an arbiter (MPU 28) that couples to a first line card and a second line card of a line card pair, wherein each line card manager couples to a different line card pair, wherein each arbiter is operably coupled to a corresponding input of the plurality of inputs of the switch core, wherein the arbiter provides ingress data from one of the first and second line cards to the corresponding input to the switch core based on selection information (figures 1, 4-5 and 17; col. 7, line 40 - col. 8, line 67.)

Furthermore, Sakamoto discloses each selector card 3 couples to a respective output port of the switch core 2, wherein the data received from the output port of the switch is forwarded to the first line card 1.1 and/or second line card 1.2 based on a routing information of the received data (figures 1, 4-5 and 17). Sakamoto does not explicitly disclose that the line card manager (3) includes a router. However, Sakamoto discloses that the first and second line cards (1-1 and 1-2) comprise a routing function (col. 2, lines 20-22; col. 9, lines 8-11; col. 12, lines 50-55; col.13, lines 4-6), which provides egress data from the corresponding output to the first and second line cards

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(1.1 and 1.2) based on routing information included in the egress data (fig. 3, col. 2, lines 23-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the routing function in the system disclosed by Sakamoto into the line card manager in order to simplify the structure and reduce the cost of the system.

Regarding claims 2, 3, 16 and 19, Sakamoto does not disclose that each line card manager further comprises buffering circuitry operably coupled to the arbiter, wherein the buffering circuitry buffers ingress data from the first and second line cards, wherein the arbiter provides ingress data from the buffering circuitry to the switch core based on the selection information. However, buffers are used in most of telecommunications systems for controlling data flow. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a buffer into the system disclosed by Sakamoto in order to control data flow in the system.

Regarding claims 4 and 17, Sakamoto discloses that the selection information determines an active line card and an inactive line card of the line card pair, wherein the arbiter preferentially passes active line card data over inactive line card data (col. 8, lines 9-67.)

Regarding claims 5 and 21, Sakamoto discloses that the redundant line card becomes active line card when a defect or failure is detected in the active line card (col. 1, lines 48-52; col. 2, lines 27-33; col. 7, line 62 – col. 8, line 8.). Sakamoto does not disclose when idle states are present in the active line card, the arbiter passes inactive line card data inactive line card. However, the method of activating the redundancy line

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card when idle states (or idle cells) are detected in the working line card is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply idle states into Sakamoto's system in order to improve quality of service because avoiding data lost in the system.

Regarding claims 7 and 20, Sakamoto does not explicitly disclose each line card manager further comprises filters, which pass selected data types and reject other data types. However, the method of using filters for passing only selected data types is well known in the art and applied in conventional communication systems. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add filters into the Sakamoto's system to insure only selected data is passed through switch core.

Regarding claim 8, Sakamoto discloses that the register (27) that determines the selected data types.

Regarding claim 11, the system disclosed by Sakamoto comprises a NxN switch core and the plurality of line cards includes 2N line cards (figures 1-4 and 17.)

Regarding claims 12-14, Sakamoto discloses that the system comprises an ATM switch; therefore, it is used in a cell based network.

Allowable Subject Matter

Claims 6, 9-10 and 22-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 24-27 are allowed for reasons given in the previous action.

Claim 28 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Sakamoto, U.S patent No. 6,075,767, discloses a system having a redundant architecture for switchover to a line interface. Sakamoto does not teach or fairly suggest the following features, which are recited in the independent claim 28 of the present application:

A switch, comprising:

a switch core, wherein the switch core has a plurality of inputs and a plurality of outputs, wherein the switch core passes data received on the plurality of inputs to the plurality of outputs based on routing tags; and

a plurality of line card managers operably coupled to the switch core and adapted to couple to a plurality of line card pairs, wherein each line card manager includes:

an arbiter that couples to a first line card and a second line card of a line card pair, wherein each line card manager couples to a different line card pair, wherein each arbiter is operably coupled to a corresponding input of the plurality of inputs of the switch core, wherein the arbiter provides ingress data from one of the first and second line cards to the corresponding input to the switch core based on selection information, wherein the selection information determines an active line card of the line card pair and an inactive line card of the line card pair;

a router operably coupled to a corresponding output of the plurality of outputs of the switch core, wherein the router couples to the first line card and the second line

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card, and wherein the router provides egress data from the corresponding output to at least one of the first and second line cards based on routing information included in the egress data;

a filter corresponding to the active line card, wherein the filter corresponding to the active line card is operably coupled to the arbiter;

a filter corresponding to the inactive line card, wherein the filter corresponding to the inactive line card is operably coupled to the arbiter;

an active register, wherein the active register configures the filter corresponding to the active line card; and

an inactive register, wherein the inactive register configures the filter corresponding to the inactive line card.

Response to Arguments

Applicant's arguments filed 02/07/2005 have been fully considered but they are not persuasive.

Regarding claims 1, 15 and 18, pages 13 and 15, Applicant argue that the Examiner did not "identified any suggestion in the prior art to modify Sakamoto et al. or any portion of Sakamoto et al. that would suggest the amended text of claim 1". Examiner respectfully disagrees. Applicant is directed to col. 2, lines 20-23, col. 8, line 1, col. 9, lines 7-12, col. 12, lines 50-52, col. 13, lines 4-6, wherein the reference discloses that the system has functions for routing data, but Sakamoto does not explicitly disclose a router. Furthermore, col. 14, line 66-col. 15, line 4, Sakamoto discloses "While the present invention has been described with reference to the

particular illustrative embodiments, it is not to be restricted by those embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention.” Thus, one of ordinary skill in the art at the time the invention was made to modify the routing function in the system disclosed by Sakamoto for advantages cited above with respect to claim 1.

Regarding claims 2, 3, 16 and 19, page 14, Applicant argues that Sakamoto's system could not add a buffer because of propagation delay that effects to the synchronization issue. Examiner respectfully disagrees. The system will have no synchronization problem if the same buffers are added to the both line cards, because the propagation delays in both line cards are the same.

Regarding claims 4 and 17, Applicant argues, “Applicant cannot identify teachings of the limitations recited in claims 4 and 17 within the portion of Sakamoto et al. (col. 8, lines 28-67) cited by the Examiner.” Examiner respectfully disagrees. Examiner did not cite “lines 28-67”, but cited lines 9-67, wherein the reference discloses:

“The selector card 3 includes a selector for selecting either one of the streams of input cells received via the paired line interface circuits 15 and supplying the stream of input cells to an input port of the ATM switch 2...” (lines 9-12)

“When the control part 4 issues a system switchover order to the selector card, the order is transmitted to the MPU via the control line 6 and the communication interface LSI unit 25-3. The MPU 28 changes over in response to the system switchover order the status value of the selector register 27 corresponding to the particular transmission path.” (lines 38-33)

“...the control part 4 issues the system switchover order only to the selector card 3. In response to the order, the status value of the selector control register 27 on the selector card 3 is altered such that the selector 9 switches over the system in response to a system switchover signal outputted from the register 27. According to an aspect of the embodiment, between the

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line interface cards 1 and the selector card 3, the signal line 26 is individually installed for each pair of line interface circuits 15 such that the system switchover signal is supplied via the individual signal line 26 to each line interface circuit 15 to thereby synchronizing the system switchover by the selector 9 with the change-over of counting operation of user cells by each line interface circuit 15." (lines 54-67)

Thus, the reference clearly teaches limitations as recited in claims 4 and 17.

Applicant's arguments with respect to claims 5, 7, 8, 20-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-18:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thai Hoang



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4/15/05